Carbon Neutral Action Report for Core Government, 2014

Greenhouse Gas Emissions and Actions Taken to Reduce Emissions for B.C. Ministries and Agencies in 2014

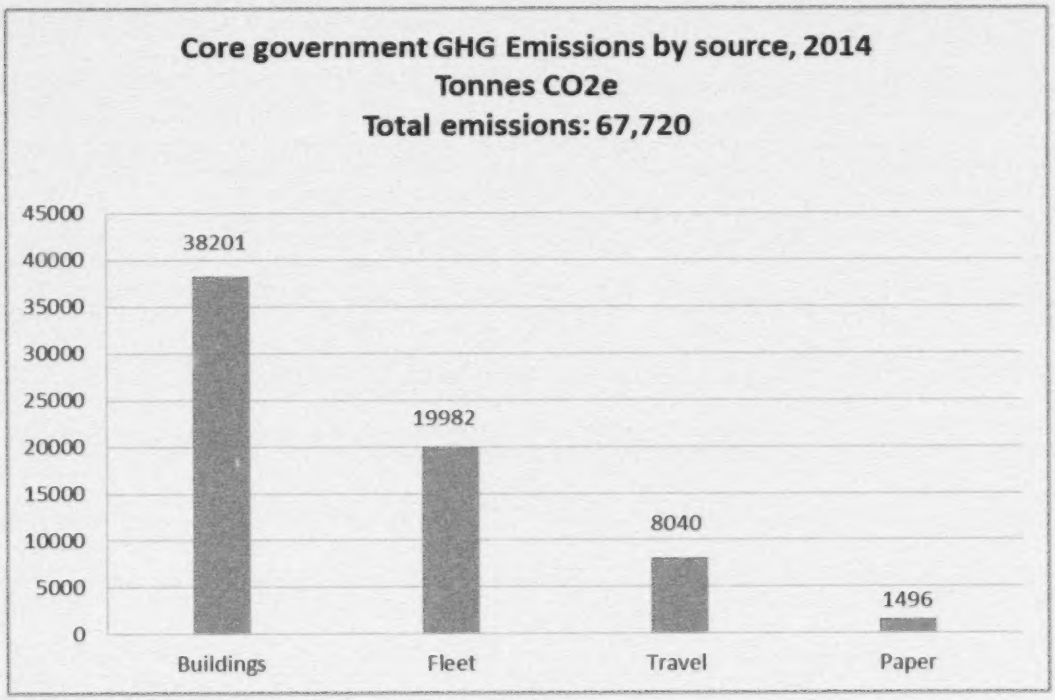
British Columbia's core government is comprised of all individual ministries and agencies that make up government operations for the province of B.C. This report details the total greenhouse gas emissions (GHGs) for core government as well as selected highlights from individual ministries and agencies of actions taken in 2014 to minimize emissions.

GHG Emissions Summary

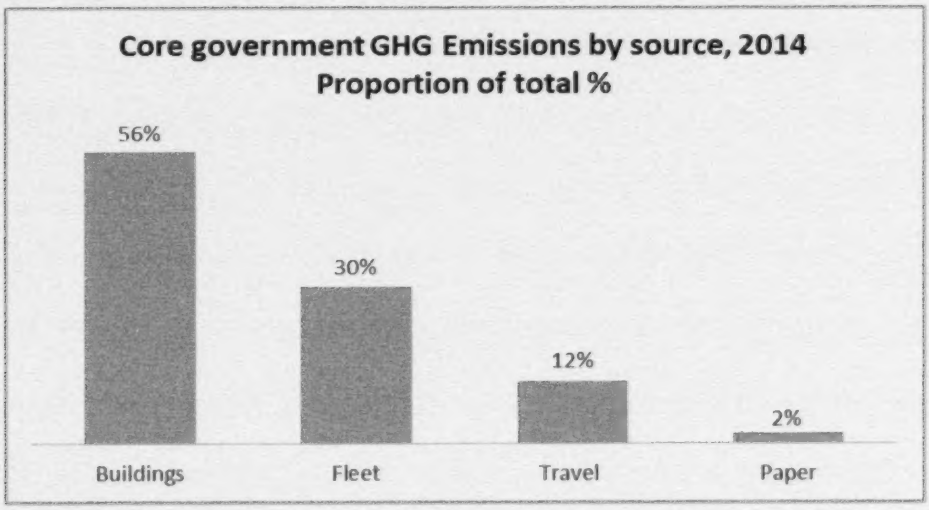
Total emissions: 67,720 tonnes carbon dioxide equivalent (CO_2e)

Total emission offset[1]: 66,965 tonnes CO_2e

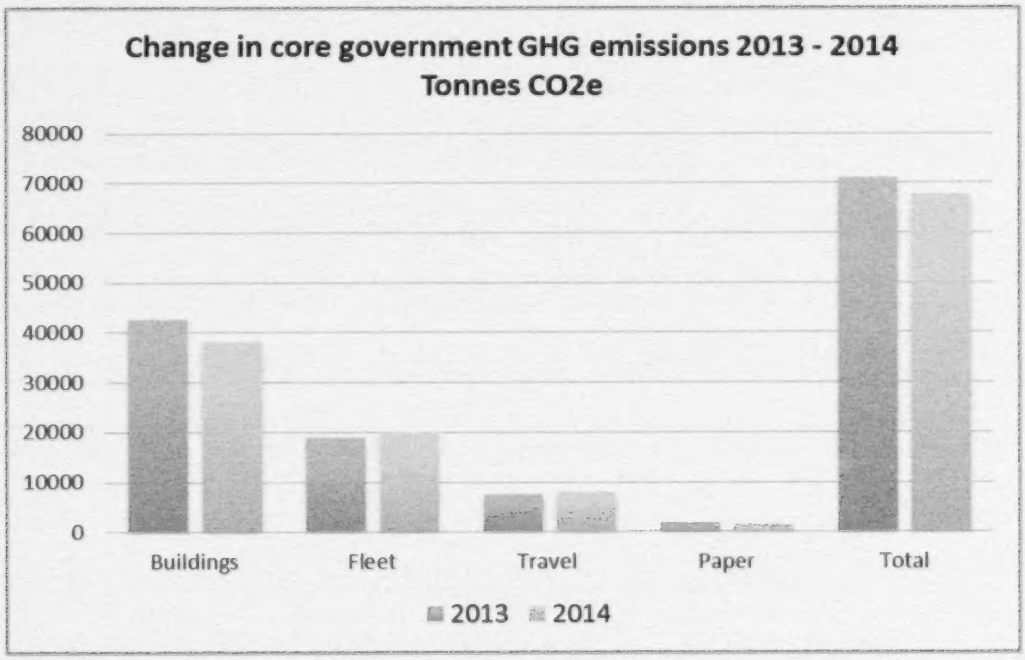
Total value of offsets: $1,674,625



[1] Under B.C.'s Greenhouse Gas Reduction Targets Act, not all provincial government and public sector greenhouse gas emissions are subject to the application of emission offsets. Exceptions include emissions from biofuels, biomass, school buses and public transportation. These emissions are still reported in total emissions, but are exempt from the application of emission offsets.



Core government emissions have dropped slightly from 2013 levels. The overall proportions have remained fairly consistent to previous years with emissions from buildings being the largest proportion followed by fleet vehicle emissions. Travel and paper consumption emissions make up the remainder.

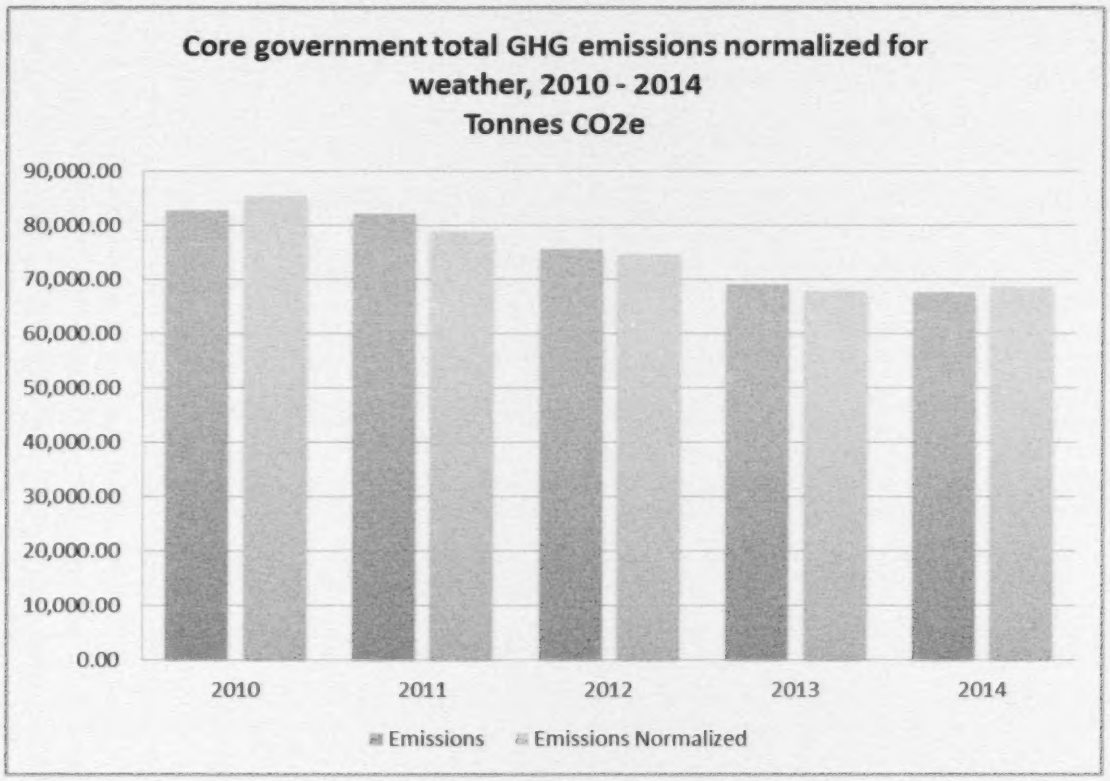


Core government emissions for 2014 show a slight decrease from 2013 levels, due primarily to a reduction in buildings emissions by 4,411 tonnes CO_2e. Both fleet and paper consumption saw very

slight increases in 2014 from 2013 levels.

Normalized Emissions

56% of core government emissions come from energy used in buildings, largely for heating. In order to make direct comparisons from 2010 to 2014, we normalize emissions from buildings with a consistent temperature. This is done using a 30 year average temperature (from Environment Canada) and a baseline of 15°C for commercial buildings.



Normalized emissions show a very slight increase over 2013 levels. From 2010 to 2014 core government has been successful at reducing overall emissions, but these decreases now appear to be levelling off.

Climate Leadership Plan

The Province is currently developing a new Climate Leadership Plan that will build on its climate successes. B.C. is taking the next step in climate leadership by engaging with British Columbians on new climate actions to support a growing economy and keep us on track toward meeting our greenhouse gas reductions targets (33% below 2007 levels by 2020 and 80% by 2050).

Highlights from Core Government – Actions taken by Ministries and Agencies in 2014

Office of the Auditor General of B.C.

In November 2014, the Office of the Auditor General relocated to its new purpose-built space, which was designed to achieve LEED Gold Commercial Interior Certification. The Office of the Auditor General and its Green Team supported the application for LEED Certification by conducting research and preparing supporting documentation. The research and documentation included, but was not limited to, gathering information on the energy consumption of electronics in the building, analyzing material reuse and documenting neighbourhood amenities. The outcome of the certification process is expected in the fall of 2015.

Ministry of Health

The Ministry of Health is in the early stages of preparing a draft framework to develop a strategic climate action plan that considers climate change in its core business operations. This Ministry-specific climate action plan will be integrated into the Ministry's planning cycle. It is a coordinated approach to climate action and will encourage collaboration opportunities that contribute to developing indicators, performance measures and targets. This work will support organizational capacity to reduce GHG emissions and integrates climate-related science and data in business operations to inform assessments of health-related risks, opportunities and priorities that may arise from climate action. The Ministry will look for linkages from health-related impacts from climate change to the strategic plan where appropriate.

Shared Services BC (SSBC) and the Climate Action Secretariat (CAS) in partnership with the Ministry of Health Green Team are conducting a first-of-its-kind triple bottom line analysis of the Public Service corporate strategy Leading Workplace Strategies (LWS). The Ministry of Health's Green Team's role will be to provide an objective lens for coordination of the project; SSBC has put forward the case study but are not able to provide the arm's length analysis required for credibility.

LWS projects replace dedicated workstations in walled cubicles and offices with open concept floor plans. Working with SSBC and CAS, this analysis comprises developing an impacts assessment methodology for LWS projects with environmental measures for energy consumption, GHG emissions and carbon offsets arising from spacing changes. The methodology will be tested on an individual LWS project and public sector organization, and will act as a case study that SSBC can apply to LWS projects across the public sector.

Ministry of Social Development and Social Innovation

The Ministry of Social Development and Social Innovation decreased their emissions by 6% over 2013 levels. Two main actions led to this achievement. The first was the successful implementation of a Leading Workplace Strategy project in the Lower Mainland Contact Centre which consolidated staff from six offices into one centralized location. The Centre can accommodate up to 14% more people utilizing

the existing workspace without incurring additional costs. As a result GHG emissions were reduced by 280 tonnes CO_2e annually.

As well, the Ministry has continued to assess its vehicle fleet and has reduced the size of its fleet by 15 vehicles from 2013.

Ministry of Community, Sport and Cultural Development

The Ministry of Community, Sport and Cultural Development is the leaseholder of the Mazda Building which is a certified LEED Gold building (Leadership in Energy and Environmental Design). New initiatives in 2014 included upgraded monitoring equipment to enhance efficiency of the HVAC system and upgrading exterior security lighting to LED (75%complete) which has a longer lifetime and uses less energy. The Ministry continues to build awareness and educate employees about its commitment and efforts required to maintain the LEED Gold standard and further reduce energy consumption and greenhouse gases.

The Ministry also focused on increasing employee awareness to reduce carbon emissions. Staff continued to be encouraged to use virtual meeting technology as an alternative to travel. Examples of successful initiatives include a virtual Strategic Human Resources Open House, as well as several virtual Lean training opportunities. The Ministry continues to promote information and tools to raise awareness about how day-to-day decisions can impact carbon emissions.

The Ministry has implemented a 'managed travel' policy to support government's expenditure management strategy which has an added benefit in terms of environmental impact. By restricting discretionary travel, limiting the number of employees required on business travel and choosing efficient travel means, carbon emissions related to travel have been minimized.

In 2015, the Ministry will continue to work with a LEED consultant and the landlord to maintain the Mazda Building's status as a LEED Gold Certified building, and to find ways to promote energy efficiency and reductions in carbon emissions.

Ministry of Jobs, Tourism and Skills Training and Responsible for Labour

The Ministry of Jobs, Tourism and Skills Training and Responsible for Labour initiated a Space Optimization Project that followed Leading Workplace Strategies principles, which resulted in space reduction of over 4,000 square feet in a single office location (1106 Cook Street, Victoria, B.C.). The increased densification was accompanied by a flexible approach to work which led to further emission reductions through reduced employee commuting.

The Ministry also focused on raising awareness and educating employees about reducing carbon emissions. Earth Week celebrations, the Hibernation Challenge and Bike to Work Week were profiled in offices across the province.

Ministry staff are also encouraged to use virtual meeting technology as an alternative to travel. Examples of successful initiatives include a virtual Strategic Human Resources Open House, as well as a number of Lean virtual training opportunities.

The Ministry has implemented a 'managed travel' policy to support government's expenditure management strategy which has an added benefit in terms of environmental impact. By restricting discretionary travel, limiting the number of employees required on business travel and choosing efficient travel means, carbon emissions related to travel have been minimized.

In 2015, the Ministry will continue to champion the reduction of GHG emissions through targeted initiatives, including:

- Review of the Full Time Equivalent footprint within the Ministry and optimization of space, in tandem with Leading Workplace Strategies analysis and planning.
- Complete the Virtualization and Migration Project transition to more energy efficient virtual servers. This is expected to significantly reduce energy needs to power and cool servers.

Ministry of Natural Gas Development and Responsible for Housing

Ministry operations are done in the most "green" manner possible. Regular initiatives include:

- Continued use of green office supplies such as Ecologix notebooks which are made from fully recycled materials.
- Printing on 100% recycled paper and defaulting printers to double-sided printing.
- "Pull printing" has been adopted by the Office for Housing and Construction Standards. This eliminates forgotten or unwanted printing and reduces paper use. All remaining desktop printers have been removed.
- Encouraging staff to turn off computer monitors and room lights when not in use.
- Turning down the temperature in workspaces.
- Supporting staff to work from home when possible.
- Reducing travel for meetings through the use of teleconferencing and Live Meeting.

B.C. Public Service Agency

In 2014 the B.C. Public Service Agency continued to embrace staff participating in Leading Workplace Strategies, a B.C. Government initiative that actively promotes "telework" and "mobile" work styles for staff. Having staff working in these ways reduces our carbon footprint. Laptop computers consume less energy than desktop computers. A mobile worker who exchanges a desktop computer for a laptop computer saves energy even when working in the office. Finally, when mobile workers reduce their commute, they also reduce transportation energy consumption.

The completion of the Managed Print Services (MPS) project allowed the Agency to take further steps in its comprehensive strategy of supporting staff working in the Leading Workplace Strategy. With the implementation of MPS, it has been indicated that we can reduce our printing volumes by up to 20%. New functionality has also been introduced such as "pulled" print jobs to the work space. This will now purge all print jobs not actioned within 24 hours, which will significantly reduce the number of unclaimed print jobs collecting at the printer.

The BC Public Service Agency continues to utilize Microsoft Lync for holding virtual meetings, as many teams are now located in multiple locations across the province. Each team member has a video camera and headset to ensure they can participate in meetings. To create equality and inclusion amongst all staff members in the meeting, even those located in the same office attend the meeting at their desk instead of meeting in a boardroom. No longer is excessive travel required to hold meetings with staff. This introduction of technology should lead to decreased travel costs by land and by air.

Ministry of Transportation and Infrastructure

The Ministry of Transportation and Infrastructure replaced twenty large half and three-quarter tonne trucks with smaller and more fuel efficient trucks resulting in an increase in overall fuel efficiency in the Ministry's fleet. Fleet management staff continued to reinforce the Ministry's anti-idling policy to all fleet-vehicle users.

Throughout 2014, the Ministry organized a number of behaviour-change campaigns to raise awareness of the importance of everyday actions that can reduce GHG emissions. These campaigns included Earth Week activities, as well as the hibernation and stay-cool challenges. These events raised awareness of actions that could be undertaken to further reduce GHG emissions, and provided an opportunity for Ministry staff to commit to energy-saving actions, such as turning off lights when leaving a room. In addition to these formal activities, quarterly communications including environmental facts and figures were sent out to all staff.

The Ministry provided financial support to the Bike to Work BC Society to help it organize Bike to Work Week, an encouragement campaign to promote cycling as a viable transportation alternative to and from work in communities across British Columbia. This funding enabled the organization of campaigns in 44 communities across the province, which benefited novice and experienced cyclists. Feedback from participants indicates that the Bike to Work Week encouraged them to try cycling as a form of transportation to work for the first time, or to resume cycling after a long hiatus. Bike to Work Week has helped to reduce GHGs by over 207,000 kilograms of CO_2e, as more individuals cycled as an alternative to operating a single occupancy vehicle.

In 2014, the Ministry of Transportation and Infrastructure implemented the Solid Waste Management Plan, in response to new bylaws affecting all households and offices in Metro Vancouver and the Capital Regional District. To raise awareness, the Ministry's green team collaborated with Facilities staff to organize a 'Kick the Can initiative', an event at which staff traded in their garbage cans for two smaller cans designed for the desktop. One is dedicated for non-recyclable, non-compostable items while the other is designed for organic material. Almost 300 garbage cans were traded in by staff and stacked

three-high, creating a wall of garbage cans. The cans could have filled a medium-sized dump truck. In addition to complying with the new bylaws, this initiative was intended to help staff visualize the amount of waste that could be reduced with the smaller garbage bins. To date, this has also doubled the volume of recycled materials.

Ministry of Technology, Innovation and Citizen's Services

Ministry of Technology, Innovation and Citizen's Services Real Property Division (RPD) adopted a 3 year GHG reduction plan, which focused on the following actions during 2014:

- BEHAVIOUR - Continued implementation and support of annual cross-government energy conservation campaigns (e.g. Hibernation Challenge, Earth Hour, Earth Week, Stay Cool Challenge, Bike to Work Week, Green Streets).

- OPERATIONS - Achieved in partnership with facility management service providers, Service Level Specifications included in contract renewal with property management providers, goals identified in an Energy Management and Conservation Strategy were implemented, and annual self-assessments relative to HVAC leading practices were conducted in all facility management zones, energy audit level 1 in 15 buildings. A working group of technicians specialized in DDC (Direct Digital Control) has been created to provide a holistic energy review performance approach, encourage greater communication between employees and managers, and improve the efficiency of operations across the portfolio. Utility costs, energy consumption, equipment trends, programing strategies, password security, and licensing are more consistently monitored and managed in a centralized model.

- PROGRAMMING - GHG emissions reduced by approximately 3316 tonnes CO_2e by dropping leased space from the overall government workspace footprint through Leading Workplace Strategies; this is the equivalent of taking 631 cars off the road.

- INFRASTRUCTURE (owned and leased) - Focus on routine capital projects, $2.2 million in upgraded energy efficient infrastructure in 2014, such as building system upgrades and replacements (e.g. mechanical, lighting and control systems), boiler replacements, rationalization of building portfolio to retain high energy performing buildings, and the new construction of energy efficient facilities (e.g. Okanagan Correction Centre).

Beyond the efforts described above, a number of management initiatives have been undertaken and improvements have been made:

- Asset Management Framework: Building Energy Performance Index and Greenhouse Gas Emission Index performance is included as a decision factor within Asset Management Plans.

- Routine Capital Program: Energy cost reduction potential is now one of six evaluation criteria within the project ranking process, including estimated GHG emissions and energy savings for every project that has an impact in energy performance.

- Environmental Management System: Development of branch-level goals contributing to corporate objectives and targets associated with each of the five significant environmental priorities, continued roll-out of the Sustainability Framework.

Overall, the results of these actions have met or exceeded expectations. The results include:

- Almost 8% reduction in Building Energy Performance Index between 2010-2014 (weather-normalized).
- Almost 20% reduction in Greenhouse Gas Emissions between 2010 and 2014 (non-weather-normalized).
- Successful recertification of EMS registration under ISO 14001.
- Accumulated property management Energy KPI result of 19% over the past 5 years.

Managed Printer Service (MPS): MPS is being implemented to replace government-owned multifunction devices (MFDs) and networked printers, which are approaching "end of life" and becoming unaffordable to maintain. This service replaces approximately 7,000 office printers and MFDs in spaces occupied by all ministries across the Province with an estimated 3,000 MPS devices. The new "Pull Print" service allows users to print from anywhere, anytime, on any networked printer; industry benchmarks indicate this approach will help reduce government printing by 20%. The MPS default to print double-sided, which can reduce annual paper costs by 30%. All printers meet the Energy Star standard, reducing energy consumption up to 36% from old devices.

Workstation Refresh: To date, 34,617 workstations have been refreshed for government employees across the province. This refresh differed from previous rollouts in a number of ways. A one computer to one FTE ratio resulted in a total of 4,798 fewer computers (13% reduction) and 2,485 desktop computers were replaced with laptops, which use 72% fewer kWh than standard desktops. Power management helps maximize computer performance and energy consumption. With the previous workstations, if users changed their workstation's power settings, those settings would reset to the 20 minute default overnight; workstations never went to sleep during work hours. After 20 minutes (default) of inactivity after 5 p.m. the workstations went to sleep and were woken up around 7 a.m. on the next weekday. With the new workstations, the default setting will conserve energy using different options, "Balanced", "Power Saver" and "High Performance". Beyond energy conservation and greenhouse gas emission reduction, the Workstation Refresh program provided waste management instructions - "Thinking Green Energy and Recycling Instructions" - delivered through a Sharepoint site and shared by installation leaders.

Server Virtualization: The Virtualization and Migration Project migrated applications from the province's aged servers in legacy data centres to more energy efficient virtual servers located in Kamloops and Calgary data centres. 1600 servers were decommissioned from March 2009 to

March 2015, reducing the energy consumption by 730,000 kWh.

In 2015, the RPD Greenhouse Gas Reduction Plan will be expanded further to include targets and planned actions of other lines of business within the Ministry

Actions to Continue to Minimize Emissions

Moving forward in 2015 and future years, B.C. core government will continue to work towards reducing GHG emissions with the following actions:

Buildings

- Work will continue to be done to upgrade existing building infrastructure with energy retrofits, lighting upgrades and energy management evaluations.
- New buildings will continue to be constructed to the LEED Gold level of certification.
- Initiatives such as the Leading Workplace Strategies will continue to be developed and utilized where appropriate to reduce the amount of space government occupies in its buildings.

Fleet

- Existing fleets will continue to be maximized for fuel efficiency with an eye towards reducing fleets where possible and moving to alternate energy vehicles where appropriate.

Travel

- Core government makes excellent use of video conferencing tools to reduce travel and this will continue to be the case

Paper

- Paper consumption will be further reduced by having more of core government use only 100% recycled paper as well as other print efficiencies such as the Managed Print Service to reduce waste from printing.